

## REMARKS

Reconsideration and allowance of the present application are respectfully requested. Claims 1-41 and 76-104 remain pending in the application. Claims 3-10, 13-18, 20-24, 27, 28, 30-35, 38, 39 and 41-75 were previously withdrawn from consideration. By this Amendment, claims 1, 19 and 29 are amended.

In numbered paragraph 2, page 2 of the final Office Action, independent claims 1, 19 and 29, along with dependent claim 40, are rejected as being anticipated by U.S. Patent 6,445,926 (Boch et al.). In numbered paragraph 3, pages 3-5 of the final Office Action, dependent claims 2, 11, 12, 25, 26, 36, 37, 86-88, 92, 98, 99 and 101 are rejected as being unpatentable over the Boch et al. patent in view of U.S. Patent 6,229,992 (McGeehan et al.) and further in view of U.S. Patent 5,574,967 ('967 Dent et al.). In numbered paragraph 4, page 6 of the final Office Action, dependent claims 84, 85, 95, 96, 103 and 104 are rejected as being unpatentable over the Bock et al. patent in view of the McGeehan et al. patent and the '967 Dent et al. patent, and further in view of U.S. Patent 4,459,651 (Fenter). In numbered paragraph 5, pages 6 and 7 of the final Office Action, dependent claim 89 is rejected as being unpatentable over the Bock et al. patent in view of the McGeehan et al. patent and U.S. Patent 5,724,666 ('666 Dent), and further in view of U.S. Patent 5,911,117 (Bhame et al.). In numbered paragraph 6, pages 7 and 8 of the final Office Action, dependent claims 76-79, 81-83, 88, 91, 93 and 97 are rejected as being unpatentable over the Bock et al. patent in view of the McGeehan et al. patent and the '967 Dent et al. patent, and further in view of U.S. Patent 6,157,811 ('811 Dent). In numbered paragraph 7, page 9 of the final Office Action, dependent claims 80, 93, 94, 100, 101 and 102 are rejected as being unpatentable

over the Bock et al. patent in view of the McGeehan et al. patent and the '967 Dent et al. patent, and further in view of U.S. Patent 5,745,009 (Leroux et al.). These rejections are respectfully traversed.

Applicants have disclosed an apparatus and method for full duplex wireless communication of information. As shown in by Fig. 1, an exemplary transmitter includes means for performing at least one of modulating and demodulating information signals (102, 104, 106) and means for information transmission/reception. Four 90° offset channels, e.g., 90° hybrids or branch line couplers, can be used to provide four times the power with the same compression, achieving good distortion control (e.g., page 8, lines 7-16). The information transmission can use a first polarization and the information reception can use a second polarization to isolate information transmission from information reception in full duplex communication (e.g., page 8, lines 17-24).

The foregoing features are broadly encompassed by claim 1, which recites, among other features, apparatus for full duplex wireless communication of information, comprising: means for performing at least one of modulating and demodulating information signals, the modulated information signal being boosted in power using a plurality of phase-offset amplification channels; and information transmission/reception means providing for information transmission using a first polarization and for information reception using a second polarization to thereby isolate information transmission from information reception in full duplex communication. Claims 19 and 29 recite similar features.

The Boch et al. patent discloses that an equipment employed at a customer premise site 50 can operate with a single antenna which employs dual orthogonal

polarization (col. 4, lines 54-57). However, the Boch et al. patent does not teach or suggest a modulated information signal being boosted in power using a plurality of phase-offset amplification channels, as recited in claim 1. Claims 19 and 29 recite similar features. Claims 1, 19 and 29 are therefore allowable.

The McGeehan et al. patent, the '967 Dent patent, the Fenter patent, the '666 Dent patent, the Bhamme et al. patent, the '811 Dent patent, and the Leroux et al. patent, considered individually or in combination as suggested by the Examiner, do not cure the deficiencies of the Bock et al. patent. The McGeehan et al. patent was cited by the Examiner for its disclosure of a control circuit 16 for signal processing elements 11 and 12 in combination with signal measurements 17 (Fig. 2). The '967 Dent patent was cited by the Examiner for its disclosure of an N channel matrix power amplifier (Fig. 6) having signal splitters 71 and class-C power amplifiers 72, but the '967 Dent patent does not teach or suggest phase-offset amplification. The Fenter patent was cited by the Examiner for its disclosure of a regulator circuit 161 and relies on a regulated power supply (Fig. 2) having a pulse generator circuit 240 and diodes 202 and 212. Regarding the '666 Dent patent, the Examiner cites the reference to reject claim 89 in paragraph 5 of the Office Action, but the Examiner fails to provide the support for his reliance on the '666 Dent patent. The Bhamme et al. patent was cited by the Examiner for its disclosure of a wireless telecommunication configured with a monopole tower (Fig. 3) having radio equipment in a cabinet 31. The '811 Dent patent was cited by the Examiner for its disclosure of modulated signals at a 2-3GHz range (col. 12, lines 49-54) which are summed, but the '811 Dent patent does not teach or suggest phase-offset amplification. The Leroux et al. patent was cited by the Examiner for its disclosure of a multi-stage amplification

capable of producing 0.5W output signal power (col. 2, lines 43-55), but the Leroux et al. patent does not teach or suggest phase-offset amplification.

The McGeehan et al. patent, the '967 Dent patent, the Fenter patent, the '666 Dent patent, the Bhamé et al. patent, the '811 Dent patent, and the Leroux et al. patent, considered individually or in combination with the Boch et al. patent, do not teach or suggest a modulated information signal being boosted in power using a plurality of phase-offset amplification channels, as recited in claim 1, and as similarly recited in claims 19 and 29. These references also do not teach or suggest at least information transmission/reception means providing for information transmission using a first polarization and for information reception using a second polarization to thereby isolate information transmission from information reception in full duplex communication, as recited in claim 1, and as similarly recited in claim 19 and 29. Claims 1, 19 and 29 are therefore allowable.

For the foregoing reasons, Applicant's claims 1, 19 and 29 are allowable. The remaining claims depend from the independent claims and recite additional advantageous features which further distinguish over the documents relied upon by the Examiner. Further, because the withdrawn claims depend from the respective generic and independent claims, Applicants respectfully submit that the present application is in condition for allowance.

All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the application is in condition for allowance and a Notice of Allowance is respectfully solicited.

Respectfully submitted,

BUCHANAN INGERSOLL PC



Date: February 2, 2006

By: \_\_\_\_\_

Patrick C. Keane

Registration No. 32,858

P.O. Box 1404  
Alexandria, Virginia 22313-1404  
(703) 836-6620